

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A process for sequestering carbon ~~emitted into~~ in the atmosphere, ~~characterized in that it comprises~~ comprising:
 - a) a step for concentrating CO₂ in ~~the~~ a liquid phase;
 - b) a step for electro-reduction of resultant liquid phase containing concentrated CO₂ or carbonic acid in an aprotic medium to ~~a compound~~ oxalic acid or formic acid in which the carbon changes to oxidation number +3 ~~in the form of oxalic acid or formic acid~~;
 - c) if appropriate, a step for ~~re-extracting oxalic~~ extracting said oxalic acid or formic acid in ~~the~~ an aqueous phase; and
 - d) a step for mineralization by reacting said oxalic acid or formic acid with a ~~compound~~ carbonate of an element M, producing a mineral in which the atomic ratio C/M is about 2/1, wherein M is any metallic element with an oxidation number of +2, and C is carbon, and wherein the oxalic acid and formic acid are in an acid or salt form.
2. (Currently Amended) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises liquefying said CO₂, the liquid CO₂ then being obtained under pressure, up to the supercritical state.
3. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO₂ in a polar aprotic liquid, not miscible with water or miscible with water in various proportions.

4. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO₂ in an aprotic ionic liquid not miscible with water or miscible with water in various proportions.
5. (Previously Presented) A process according to claim 4, characterized in that said ionic liquid comprises 1-butyl-3-methylimidazolium hexafluorophosphate.
6. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO₂ in an aqueous phase containing an alcohol and/or an amine.
7. (Currently Amended) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO₂ in ~~the a~~ a hydrated form, said concentration being activated by an enzymatic pathway.
8. (Previously Presented) A process according to claim 7, characterized in that the hydration activating enzyme comprises carbonic anhydrase.
9. (Previously Presented) A process according to claim 8, characterized in that the solution obtained is then recycled to a process for absorption of CO₂ in an aqueous phase in the presence of an alcohol and/or amine.
10. (Currently Amended) A process according claim 9, characterized in that the aqueous ~~solution~~ phase obtained is recycled to a liquefaction process of CO₂ under pressure.
11. (Previously Presented) A process according to claim 6, characterized in that the aqueous solution obtained is transferred by a liquid-liquid extraction process to an ionic liquid medium which is insoluble in water.

12. (Currently Amended) A process according to claim 1, in which the electro-reduction step b) is carried out at a pH in the range of 3 to 10 and with an anode maintained at a potential of +0.5 to -3.5 volts with respect to ~~the a~~ a normal hydrogen electrode.
13. (Previously Presented) A process according to claim 12, in which the pH is in the range of 3 to 7.
14. (Previously Presented) A process according to claim 12, in which the anode used in the electro-reduction step is constituted by platinum, diamond-doped with boron or carbon doped with nitrogen.
15. (Previously Presented) A process according to claim 1, in which the electro-reduction step b) is carried out in liquid CO₂ under pressure.
16. (Currently Amended) A process according to claim 1, in which the compound from electro-reduction step b) comprises said oxalic acid or an oxalate.
17. (Currently Amended) A process according to claim 16, in which the oxalic acid or oxalate, obtained in ~~a non-aqueous~~ an aprotic medium, is re-extracted by an aqueous phase.
18. (Previously Presented) A process according to claim 1 in which, at the end of step a), liquid CO₂ is injected into a subterranean CO₂ store.
19. (Previously Presented) A process according to claim 18, in which electro-reduction step b) is carried out in the subterranean CO₂ store.
20. (Currently Amended) A process according to claim 1, incorporating step (c) in which ~~the a~~ final mineralization step comprises an attack of a carbonated mineral by an aqueous solution of oxalic acid or formic acid from the electro-reduction step (b).

21. (Previously Presented) A process according to claim 19, in which said carbonated mineral comprises a calciferous or magnesia-containing carbonated mineral.
22. (Currently Amended) A process according to claim 1, in which the element M is calcium and the mineral ~~formed~~ produced is Whewellite, $\text{CaC}_2\text{O}_4 \cdot \text{H}_2\text{O}$.
23. (Currently Amended) A process according to claim 1, in which the mineralization step comprises bringing ~~the~~ an aqueous solution of oxalic acid or formic acid derived from the electro-reduction step into contact with a calciferous or magnesia-containing sedimentary rock.
24. (Currently Amended) A process according to claim 1, in which ~~the~~ a final mineralization step comprises injection into ~~the~~ a substratum.
25. (Previously Presented) A process according to claim 2, in which the electro-reduction step b) is carried out in liquid CO_2 under pressure.
26. (Currently Amended) A process according to claim 25, incorporating step (c) in which ~~the~~ a final mineralization step comprises an attack of a carbonated mineral by an aqueous solution of oxalic acid or formic acid derived from the electro-reduction step (b).
27. (Previously Presented) A process according to claim 26, in which said carbonated mineral comprises a calciferous or magnesia-containing carbonated mineral.
28. (New) A process for sequestering carbon in the atmosphere, comprising:
- a) a step for concentrating CO_2 in a liquid phase;
 - b) a step for electro-reduction resultant liquid phase containing concentrated CO_2 or carbonic acid in an aqueous medium to formic acid or formate in which the carbon changes to oxidation number +3;

- c) a step for mineralization by reacting said formic acid or formate with a carbonate of an element M, producing a mineral in which the atomic ratio C/M is about 2/1, wherein M is any metallic element with an oxidation number of +2, and wherein the formic acid is in an acid or salt form.
29. (New) A process according to claim 28, in which said carbonated mineral comprises a calciferous or magnesia-containing carbonated mineral.